Averting Thrombocytopenia post-Vaccination

by Anthony of Boston

Disease is caused by bacterium, viruses, parasites or fungus. These pathogens are made up of several components, which are unique to the specific pathogen and the disease it causes. The component of the pathogen that provokes the body into producing antibodies is called an antigen. This process of which antibodies are produced in response to an antigen is a major aspect of immunity. Vaccines contain inactive parts of the antigen. When these inactive parts are introduced to the body through vaccine injection, the body responds by producing antibodies in response to it. This gives the body some protection against the disease should they be exposed to it later on. Technically, the part of the antigen presented to the body through the vaccine should not cause the disease itself.

Thrombocytopenia has been reported by a small number of people who have received the COVID-19 vaccine. Thrombocytopenia is a condition where platelet count is very low. As a result, a person becomes at risk of excessive bleeding and hemorrhaging. However, blood clots have also been associated with side-effects from the COVID-19 vaccine and these blood clots are occurring in people with low platelet counts. This presents a medical conundrum since low platelet count indicates that blood is less able to form clots.

After researching some of the indicators of infected COVID-19 patients, I discovered that a significant number of COVID-19 patients had low platelet counts. This was even considered a biomarker for COVID-19 mortality. However, hemorrhaging and bleeding outcomes were significantly less prevalent than blood clots in infected COVID-19 patients. This promotes a counter- intuition since a low platlet count would indicate that one's blood is less able to form clots. So as I researched further, I discovered another factor prevalent in COVID-19 patients. That factor was an elevated mean platelet volume,

which indicates the size and activation of the platelets. When this is elevated, the risk of blood clots become higher even with low platelet count. Highly activated platelets, even if low in number, can go into circulation and form clots.

So after reading of platelet issues after vaccination, I presumed that the part of the antigen introduced to the body by the vaccine is the part of the virus responsible specifically for both low platelet count and high mean platelet volume in COVID-19 and that some people exposed to this part of antigen by the vaccine are not producing the antibodies quick enough to subvert the antigen-specific symptoms. Or their body may already be in a state that puts them at higher risk for such symptoms regardless of immune status. Those with higher homocysteine levels at the time of vaccination could correlate with platelet related risk factors.

I presume that the only way to correct a high mean platelet volume and a low platelet count is by targeting and lowering homocysteine levels. Homocysteine is an amino acid used to make proteins. It is formed when methionine, another amino acid, is broken down in the body. Everyone has some homocysteine in their blood. When homocysteine becomes elevated, it can cause irritation of the blood vessels. Elevated levels of homocysteine show an increased risk for hardening of the arteries, heart attack, stroke, and venous thrombosis. Lowering homocysteine levels requires regeneration of methionine from homocysteine. This process is dependent on Vitamin B12(cobalamin). Vitamin B12 essentially breaks down homocysteine back into methionine and other amino acids needed by the body

This study found that Homocysteinemia which is highly elevated homocysteine levels, is inversely correlated to platelet count. https://pubmed.ncbi.nlm.nih.gov/16011963/

In this study, Vitamin B12 lowered mean platelet volume https://jag.journalagent.com/actamedica/pdfs/ACTAMED-43434-

Averting Thrombocytopenia post-Vaccination

ORIGINAL_ARTICLE-AKTAS.pdf

These studies found homocysteinemia to be associated with increased mean platelet volume.
https://onlinelibrary.wiley.com/doi/full/10.1111/j.1538-7836.2007.02459.x

https://www.jhltonline.org/article/S1053-2498(01)00538-1/pdf#relatedArticles

These finding would infer that elevated homocysteine levels trigger both low platelet count and high platelet volume. A simple vitamin B12 shot or vitamin B12 supplement after vaccination could possibly subvert the side effects related to low platelet count and high mean platelet volume.